

Amendment and Response

Applicant: Michael J. Brosnan

Serial No.: 09/811,001

Filed: March 13, 2001

Docket No.: 10010038-1

Title: PORTABLE ELECTRONIC DEVICE WITH MOUSE-LIKE CAPABILITIES

IN THE CLAIMS

Please amend claims 1, 8, 13, 16, and 20 as follows:

1.(Currently Amended) A method of controlling menu item selection in a portable electronic device, the portable electronic device including a menu display having a plurality of menu items and a menu item pointer movable by a user to highlight particular menu items, the method comprising:

sensing two-dimensional relative movement between the portable electronic device and an imaging surface with a motion sensor;

generating a first set of movement data with the motion sensor indicating a first relative movement between the portable electronic device and the imaging surface;

moving the menu item pointer based on the first set of movement data to highlight a first menu item;

generating a second set of movement data with the motion sensor indicating a second relative movement between the portable electronic device and the imaging surface; and

selecting the first menu item based on the second set of movement data.

2.(Original) The method of claim 1, wherein the first set of movement data indicates movement in a first direction, and the second set of movement data indicates movement in a second direction, the second direction being substantially perpendicular to the first direction.

3.(Original) The method of claim 1, and further comprising:

directing light onto the imaging surface, thereby generating reflected images;

focusing the reflected images onto an array of photo detectors;

generating digital representations of the reflected images based on outputs of the photo detectors; and

correlating at least one version of a first one of the digital representations with at least one version of a second one of the digital representations.

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4.(Original) The method of claim 1, wherein the portable electronic device is one of a cellular telephone, personal digital assistant, digital camera, pager, portable music player, and portable game device.

5.(Original) A portable electronic device comprising:

a menu display having a plurality of menu items and a menu item pointer movable by a user to highlight particular menu items;

a motion sensor for sensing relative movement between the portable electronic device and an imaging surface, the motion sensor configured to generate a first set of movement data indicating a first relative movement between the portable electronic device and the imaging surface, and configured to generate a second set of movement data indicating a second relative movement between the portable electronic device and the imaging surface; and

a controller configured to move the menu item pointer based on the first set of movement data to highlight a first menu item, the controller configured to select the first menu item based on the second set of movement data.

6.(Original) The device of claim 5, wherein the first set of movement data indicates movement in a first direction, and the second set of movement data indicates movement in a second direction, the second direction being substantially perpendicular to the first direction.

7.(Original) The device of claim 5, wherein the motion sensor is an optical motion sensor.

8.(Currently Amended) The device of claim 7, wherein the optical motion sensor further comprises:

a light source for illuminating the imaging surface, thereby generating reflected images;

an array of photo detectors;

a lens for focusing the reflected images onto the array of photo detectors; and

wherein the optical motion sensor is configured to generate a digitizer for generating
digital representations of the reflected images based on outputs of the photo detectors; ~~and~~

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~~a correlator for correlating and correlate~~ at least one version of a first one of the digital representations with at least one version of a second one of the digital representations.

9.(Original) The device of claim 5, wherein the motion sensor is positioned on a back side of the portable electronic device, and the menu display is positioned on a front side of the portable electronic device.

10.(Original) The device of claim 5, wherein the portable electronic device is one of a cellular telephone, personal digital assistant, digital camera, pager, portable music player, and portable game device.

11.(Original) A method of identifying the user of a portable electronic device, the method comprising:

storing movement pattern data representing a first pattern of relative movement between the portable electronic device and an imaging surface;

sensing relative movement between the portable electronic device and an imaging surface;

generating a first set of motion data based on the sensed relative movement, the first set of motion data representing a second pattern of relative movement between the portable electronic device and an imaging surface;

comparing the first set of motion data to the stored movement pattern data; and

identifying the user of the portable electronic device based on the comparison of the first set of motion data to the stored movement pattern data.

12.(Original) The method of claim 11, and further comprising:

directing light onto the imaging surface, thereby generating reflected images;

focusing the reflected images onto an array of photo detectors;

generating digital representations of the reflected images based on outputs of the photo detectors; and

correlating at least one version of a first one of the digital representations with at least one version of a second one of the digital representations.

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13.(Currently Amended) The method of claim 11, and further comprising:
enabling operation of the portable electronic device if the first set of motion data matches the stored movement pattern data.

14.(Original) A portable electronic device comprising:

a memory for storing movement pattern data representing a first pattern of relative movement between the portable electronic device and an imaging surface;

a motion sensor for generating a first set of motion data representing a second pattern of relative movement between the portable electronic device and an imaging surface; and

a controller for comparing the first set of motion data to the stored movement pattern data, the controller configured to identify the user of the portable electronic based on the comparison of the first set of motion data to the stored movement pattern data.

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15.(Original) The device of claim 14, wherein the motion sensor is an optical motion sensor.

16.(Currently Amended) The device of claim 15, wherein the optical motion sensor further comprises:

a light source for illuminating the imaging surface, thereby generating reflected images;

an array of photo detectors;

a lens for focusing the reflected images onto the array of photo detectors; and

wherein the optical motion sensor is configured to generate a digitizer for generating digital representations of the reflected images based on outputs of the photo detectors; ~~and~~

~~a correlator for correlating and correlate~~ at least one version of a first one of the digital representations with at least one version of a second one of the digital representations.

17.(Original) The device of claim 14, wherein the motion sensor is positioned on a back side of the portable electronic device.

18.(Original) A portable electronic device comprising:

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a memory for storing movement pattern data representing a first pattern of relative movement between the portable electronic device and an imaging surface;

a motion detector for generating a first set of motion data representing a second pattern of relative movement between the portable electronic device and an imaging surface; and

a controller for comparing the first set of motion data to the stored movement pattern data, the controller configured to enable operation of the portable electronic device if the first set of motion data matches the stored movement pattern data.

19.(Original) The device of claim 18, wherein the motion detector is an optical motion detector.

20.(Currently Amended) The device of claim 19, wherein the motion detector further comprises:

a light source for illuminating the imaging surface, thereby generating reflected images;

an array of photo detectors;

a lens for focusing the reflected images onto the array of photo detectors; and

wherein the motion detector is configured to generate a digitizer for generating digital representations of the reflected images based on outputs of the photo detectors; and

a correlator for correlating and correlate at least one version of a first one of the digital representations with at least one version of a second one of the digital representations.

21.(Original) The device of claim 18, wherein the motion detector is positioned on a back side of the portable electronic device.

22.(Original) The device of claim 18, wherein the portable electronic device is one of a cellular telephone, personal digital assistant, digital camera, pager, portable music player, and portable game device.
